

Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Rocky Flats**

Site Summary Level: **Rocky Flats Environmental Technology Site**

Project **RF016 / Building 371 Cluster Closure Project**

Report Number: **GEN-01b**

Print Date: **3/9/2000**

HQ ID: **0355**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

Purpose: Prior to the end of the cold war, the purpose of the Buildings 371 facility was threefold: (1) to recover plutonium from all residues generated by plutonium-related fabrication, assembly, and research activities throughout Rocky Flats Plant, (2) to convert the recovered plutonium into high purity metal buttons, and (3) to recover associated americium and convert it to americium dioxide, which is a sellable product. Included in the 371 Cluster Closure Project are buildings 371, 374, 373, 374A, 377, 378, 381, T371H, T371J, T371K, 376, T376A, T371I, 371A and tanks 163, 164, 165, 166, 167, 168, 169, 170, 171, 224, 225, 226, 227, and 228. When all nuclear production was halted in 1989, Special Nuclear Materials (SNM) were left in place without any handling or repackaging pending resumption of nuclear operations. The Rocky Flats production mission was formally terminated in 1992 such that routine production operations were no longer planned. Resumption efforts have been undertaken in several buildings to begin processing, stabilizing and repackaging the SNM to make it safe to store, handle and ship. This effort will continue until all closure activities are completed. As the effort to stabilize and process material progresses (description of these activities are located within PBS #10 B371 Liquid Stabilization Project, PBS #8 Pu Metals and Oxide Stabilization, PBS #9 Solid Residue Stabilization Project, PBS #17 B707 Closure, PBS #18 B771/774 Closure and PBS #19 B776/777 Closure) and as buildings are no longer required to process and store SNM, it is necessary to deactivate and decommission these nuclear and support facilities to further minimize risk, reduce mortgage costs and to fulfill the site closure mission.

During this transition from an operating SNM facility to a closed site, there are five activities within this project:

-Facility Landlord Function: to provide safe, compliant facilities to allow mission and site closure activities to occur.

-Deactivation/SNM Removal: to remove SNM from untoward places for proper dispositioning and to place the facilities within the cluster in a safe, stable condition to minimize landlord costs, surveillance and maintenance costs, for the purpose of retiring the facilities with adequate regard for the health and safety of the worker and to protect the public and environment.

-Decommissioning: Those activities occurring after deactivation including surveillance and maintenance, decontamination, dismantlement of the facilities within the cluster.

-Remediate/Contain 371 Cluster High Risk IHSS: activities including soil characterization, soil removal and disposal to meet the requirements for closure.

-Closure: Sampling, analyzing and review of data necessary to ensure regulatory requirements have been met for closure.

The purpose of the International Atomic Energy Agency (IAEA) project is to support the US Government voluntary offer agreements to place a portion of the nation's fissile material inventory under international safeguards. Room 3331 in Building 371 was offered to and accepted by the IAEA and will thereafter be subject to their safeguards.

Scope: B371, the major facility in the B371 Cluster, consists of an attic, first floor, basement, and sub-basement totaling 300,000 square feet of floor

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area. The other major facility within this cluster, B374, consists of a first floor, second floor, and basement totaling 42,700 square feet of floor area. Specifically, the 371/374 Cluster contains 22 facilities, as listed in the Facility Information Management System, containing 356,357 square feet. The cluster contains, as defined in the Decommissioning Program Plan, one Type 3 (Significant contamination or hazards) building, B371, totaling 315,022 square feet, two Type 2 (in need of decontamination) buildings, B374 and B378, totaling 43,766 square feet, three Type 1 (free of contamination) buildings, 374A, 377 and 381, totaling 4369 square feet, 2 cooling towers, 373 and 384, totaling 4160 square feet and 14 separate tanks. B371 contains over 70 contaminated gloveboxes and over 100 contaminated tanks. The 371A cluster contains 6 facilities containing 8660 square feet, T371H, T371I, T371J, T371K, 376 and T376A.

The major materials/waste within B371 are Plutonium metals, buttons, and oxide, Enriched Uranium, wastes, and liquid wastes. The major materials/waste within B374 are mainly liquids, including: laundry water, incidental water from across plant site, distilled water, and chemicals.

Landlord functions ensure that the buildings and cluster facilities are maintained in a safe, secure, and environmentally compliant status. Compliance to the authorization basis is demonstrated through the performance of applicable surveillances and compensatory measures. Appropriate controls are maintained, and verification inspections are performed, to demonstrate compliance to applicable DOE, State, and Federal regulatory requirements. Maintenance and calibration activities are performed to a level that ensures Vital Safety System operability. Building availability will be maintained at the level necessary to support Nuclear Operations, Waste Management, Deactivation/SNM Removal and D&D operations.

Deactivation/SNM Removal, Decontamination, and Decommissioning will be required to remediate approximately 300 metric tons of stored waste, 40,000 metric tons of structural material inventory, 6,900 metric tons of equipment, and 58,000 gallons of chemicals. The purpose of decommissioning this cluster is to safely close the site by reducing the hazards and waste generated during the production era.

Remediate/Contain 371 Cluster High Risk IHSS and Cluster Closure consists of planning and authorization, source removal and containment, and obtaining the final approval for IHSS remediation. The end state of this element will be achieved when final approval is granted from the regulators.

The material currently subject to IAEA safeguards is expected to remain so as long as it is stored at the Site. This will include supporting the needs of the IAEA, including seal verification, inventory records review, assay of selected materials, and the taking of samples for destructive assay.

Technical Approach: Accelerated closure of Building 371 is based upon two strategic objectives that are fully supportive of the safety objective of DNFSB Recommendation 94-3. First, the plan accelerates the completion of stabilization, safe packaging, and shipment of plutonium metal, oxide and dispersible residues to facilitate transition to D&D, in the process increasing our confidence of SNM closure by 2002. Secondly, the 2006 closure plans begin deactivation and D&D of the facility in parallel with the completion of the plutonium risk reduction mission, and are sequenced to achieve early removal of significant holdup to reduce safeguards requirements for D&D, but in the process reducing the residual facility risk. The execution of the 2006 baseline plan results in the elimination of the potential Building 371 mission to store plutonium beyond 2002 (the interim plutonium storage mission in the IPP), and reduces therefore, the risk to both the worker and the public.

The development of these accelerated closure plans for Building 371 was integrated with the Department's commitments to the Board in the 94-3 Integrated Program Plan (IPP) and the Interim Storage Upgrades Validation Project Report. The Validation Report recommended the following interim storage upgrades:

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- 1) Modification of sub-basement vaults 1101 and 1208 to provide secure storage for plutonium oxides for the interim mission, lessening the risk posed by a potential collapse earthquake (return period estimated as 38,000 years) - integration strategy: obviate interim storage mission
- 2) Removal or containment of holdup - integration strategy: pursue as priority parallel activity to SNM closure
- 3) Removal of pall rings from four HVAC scrubbers to reduce fire risk - integration strategy: work package planning being completed in FY-99 to support removal during deactivation 2001.
- 4) Replacement of credited first stage HEPA filters - integration strategy: already completed in FY-99.

IPP deliverable 6-3 commits to the completion of all validated upgrades by 2002. Executed as planned and funded in PBS 16, holdup will be removed, the scrubbers will be deactivated (including pall and raschig ring removal), and all plutonium oxide will have been shipped to SRS by the end of 2002. Accordingly, construction of the 1101/1208 upgrades is not planned nor budgeted as part of the baseline. PBS 04, however, will remain open to fund these upgrades should off-site shipment encounter unexpected delays. Should the Go-No Go criteria in Section 6 of the IPP not be met as expected money will be allocated to start construction of the vault upgrades in accordance with the RFFO approved construction schedule, and integrated with facility mission plans to assure readiness of the vaults to accept oxide in 2002. If the Go-No Go criteria in Section 6 of the IPP are met and plutonium oxide shipment is executed as scheduled, PBS 04 will be formally closed at the end of FY02.

IPP deliverable 6-4 commits to begin an interim storage SAR in FY00 and complete its implementation in 2002. Since the 2006 baseline eliminates the need for an interim storage mission, the start of a SAR in FY00 is not planned, nor are funds reserved for implementation in any out year. The AB strategy of the baseline plan is to complete all nuclear work under the existing BIO, utilizing the Site page change and annual update processes to authorize deactivation and D&D in parallel with plutonium stabilization and packaging, and to modify the TSR's when hazards are either added or eliminated and controls are added or no longer needed. As above, should there be a need for interim storage beyond 2002, the development and implementation of a SAR would be funded as a PBS 04 task for completion by 2002.

IPP deliverable 6-5 commits to assess the "Go/No Go" criteria for assured success of off-site shipment. As reported in the IPP Quarterly Reports, significant progress has been made towards satisfying the five criteria. Confidence is high that all five will be met in support of accelerated Site closure, and well in advance of the need to begin interim storage in 2003. The progress made to date and described below, has been a key component of the decision to redirect funds reserved in the 2010 baseline for interim storage to acceleration of the risk reduction, deactivation, and D&D missions.

- 1) APSF or alternate storage capacity for RFETS material - although APSF construction has been delayed, sufficient storage capacity is available at the SRS K-area site. Authorization to store RFETS material, including IAEA oxide, is expected in FY99.
- 2) ROD for plutonium disposition - although issuance and approval of the ROD has been delayed beyond the expected completion dates, the DOE still expects to have a decision prior to PuSPS startup.
- 3) PuSPS is operational and authorized for stabilization and packaging - significant progress has been made on accelerating the installation and startup of PuSPS to December, 1999.
- 4) Completion of a shipment of plutonium bearing material from RFETS to SRS in a SST - as reported in the ninth IPP Quarterly Report, this criteria was substantially satisfied by shipment of SS&C residues by commercial carrier in December, 1998. A shipment with plutonium content high enough to require the use of a SST is expected to be made in FY99.
- 5) Off-site pit shipment - the shipment of pits to Pantex was completed in April, 1999, satisfying this criteria.

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Based on progress to date, it is expected that the DOE will formally notify the DNFSB of a decision to discontinue the IPP interim storage option in the first half of 2000.

Project Status in FY 2006:

This project will be completed.

Post-2006 Project Scope:

No activities are currently scheduled to occur after 2006 for this project.

Project End State

The end state of this project will be achieved when each of the major elements have been completed and final closure physical and administrative activities have been completed that meet the intent of regulatory requirements.

Cost Baseline Comments:

Cost estimates are based on assumptions and data developed by the technical groups that have responsibility for managing the work. To the extent practical, all cost estimates are Activity-Based Costs (ABC) and tied directly to a defined and detailed work scope. The estimates are developed at the activity level and are further divided into line items. Line items represent individual resource contributions to activities and are the lowest level of input to the planning system. Once the cost estimate is developed, each activity is evaluated for cost, technical and schedule risk and the appropriate contingency is determined. Detailed estimates and the basis of estimates (BOEs) for the 2006 Closure Plan are available at the Site.

Safety & Health Hazards:

The principle hazards in the Building 371 Cluster Closure Project are radiological, chemical, and other standard industrial hazards commonly found in Pu Buildings at RFETS. Most of these hazards will exist throughout the project and are related to characterization, hazardous material removal, deactivation, decommissioning, remediation, and demolition. These hazards will be analyzed and categorized in accordance with the RFETS Safety and Health Program infrastructure policies, manuals, and procedures. Specifically Sets 1 through 8, and Sets 10, 11, 13, and 14 would have Radiological, Chemical and Industrial hazards. Sets 9, 12, 15 and 16, encompassing hallways and office space, would have general industrial and office type hazards. Other hazards include Beryllium, generally in Set 8, which is where BE Repackaging Operations were performed. In general the building does have asbestos impregnated tile through out the facility.

To address these hazards, IWCP and the Integrated Safety management program will be used to assist in identifying the hazards as well as the proper controls and actions to mitigate or remove them.

Safety & Health Work Performance:

This project will be completed within the RFETS Safety and Health Program and within the controls and authorization basis documents defined above to ensure the safety and health of the worker, public and the environment. RFETS has implemented an integrated safety management system

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consisting of the following elements: radiological safety, criticality safety, emergency management, fire safety, industrial hygiene, nuclear safety, occupational medicine, occupational safety, safeguards and security, safety integration, performance oversight, and standards management. RFETS provides site wide infrastructure programs for each functional area to establish consistent safety standards and support for this project. Safety and health success results from the efficient and effective implementation of these programs. This project is responsible for ensuring that the necessary elements of the safety and health programs are incorporated into the specific project plans and implementing documents, and that an appropriate Readiness Determination and Safety Evaluation Screen (SES)/Unreviewed Safety Question Determination (USQD) have been performed.

PBS Comments:

GENERAL NARRATIVE:

For simplicity of presentation, and due to the total annual funding allocation for the site, the appropriate planning activities for deactivation and D & D is generally displayed at a summary level. When funding levels are determined, and specific annual plans are prepared, it may be necessary to adjust the scopes and budgets for planning the physical activities. However, it should be noted that RFCA and safety concerns dictate that from six months to a year, it is required to prepare, obtain regulatory/public review, etc, prior to beginning physical D & D. The waste volumes listed herein include newly generated waste from deactivation, D & D, and IHSS remediation activities. The volumes do not include wastes routinely generated or wastes from landlord activities which are all contained in Project 2.

Baseline Validation Narrative:

Although the 2006 Closure Plan has not been officially validated, it has undergone a high level review by Rocky Flats Field Office (RFFO) and Headquarter personnel. Current independent validation efforts include the following: 1) RFFO has contracted an independent firm to perform a baseline confidence review of the 2006 Closure Plan by the end of FY99, and 2) the Office of Field Management (FM) has contracted a big-five accounting firm to validate the 2006 Closure Plan.

In addition to the 2006 Closure Plan validation efforts, results/recommendations from several previous baseline validation efforts were used in the development of the 2006 Closure Plan. These validations included: 1) The U.S. Army Corps of Engineers (USACE) performed a validation of the Rocky Flats Ten Year Plan in FY97/FY98, 2) Kaiser-Hill contracted Price Waterhouse Coopers, LLP to conduct and independent validation effort of the 2010 Closure Project Baseline that concluded in May of FY99, and 3) Kaiser-Hill engaged Arthur Andersen, LLP to conduct a schedule and cost risk review of the 2010 Closure Project Baseline.

General PBS Information

Project Validated?	Date Validated:
Has Headquarters reviewed and approved project?	No
Date Project was Added:	12/1/1997
Baseline Submission Date:	
FEDPLAN Project?	Yes

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General PBS Information

Drivers:	CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
	Y	Y	Y	N	N	Y	Y	Y

Project Identification Information

DOE Project Manager: Jessie Roberson

DOE Project Manager Phone Number: 303-966-2263

DOE Project Manager Fax Number: 303-966-4775

DOE Project Manager e-mail address: ten.year.plan@rfets.gov

Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006	
PBS Baseline (current year dollars)	355,310	0	355,310	20,690	20,690	16,718	16,718	21,864	38,337	42,913	52,755	36,004	54,454	50,823	20,752	
PBS Baseline (constant 1999 dollars)	330,975	0	330,975	20,690	20,690	16,718	16,718	21,864	37,329	40,925	49,277	32,938	48,793	44,603	17,838	
PBS EM Baseline (current year dollars)	355,310	0	355,310	20,690	20,690	16,718	16,718	21,864	38,337	42,913	52,755	36,004	54,454	50,823	20,752	
PBS EM Baseline (constant 1999 dollars)	330,975	0	330,975	20,690	20,690	16,718	16,718	21,864	37,329	40,925	49,277	32,938	48,793	44,603	17,838	
	2007	2008	2009	2010	2011- 2015	2016- 2020	2021- 2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045	2046- 2050	2051- 2055	2056- 2060	2061- 2065	2066- 2070
PBS Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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	2007	2008	2009	2010	2011- 2015	2016- 2020	2021- 2025	2026- 2030	2031- 2035	2036- 2040	2041- 2045	2046- 2050	2051- 2055	2056- 2060	2061- 2065	2066- 2070
PBS Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.00%	0.00%	0.00%	2.70%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 9/1/2008

Current Projected End Date of Project: 5/22/2006

Explanation of Project Completion Date Difference (if applicable):

Scope Deletion

Efficiencies

New Scope

New Landlord scope includes services such as Nuclear Safety, Radiological Engineering, Laundry, Facility Management Overhead Support, etc. that were transferred into this PBS from other PBSs.

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Project Reconciliation

Work scope previously in PBS 5- IAEA Project has been incorporated into this PBS

Acceleration of the removal of combustible materials from Room 2327, B371 in order to bring the room into compliance with the facility combustible control program and the Basis of Interim Operations.

New work scope requested by RFFO includes:

- 1) additional assessments in the 94-3 Emergency Lightening project increased the reproduction and engineering costs
- 2) replacement of HEPA filters in B/371

Cost Growth

The costs have been revised to be consistent with the Facility Disposition Cost Model that was developed to improve the basis and accuracy of the out year decommissioning cost estimates. This model is based on actual decommissioning costs incurred at Rocky Flats and actual cost data or bottom up estimates from other government and commercial facilities.

Science & Technology

New scope requested by RFFO includes:

- 1) support of the Trilateral Initiative Pit Measurements. DOE is developing measurement techniques in support of the Trilateral Initiative for verification of excess weapons-origin material in the United States and Russia. In order to support this important initiative, the RFETS site will host a group of approximately six experimenters (from Los Alamos, Livermore, and Sandia) to make neutron and gamma-ray measurements on pits in Building 371.

Other

The scope of work and end state conditions for the 2006 Plan are similar to the current 2010 Baseline, with a four-year acceleration and a reduction in cost being the two most significant differences. The bottom-up estimate for the 2006 Plan is a \$1.65 billion improvement over the comparable activity-based bottoms-up detail estimate for 2010.

To close the Site four years earlier than the current 2010 Baseline requires a strategically different approach. The two key principles followed in preparing the 2006 Baseline were: 1) safely reducing the urgent risks first, and 2) performing work in a sequence that reduces or eliminates operations, maintenance and security costs (often referred to as - mortgage costs) as early as possible. Key to the 2006 Baseline approach is early closure of the secured Protected Area. Closing the Protected Area as soon as possible means that the high security and maintenance costs for this area can be redeployed to accelerate other closure activities. In addition, D&D and SNM risk reduction activities will be performed simultaneously rather than sequentially, supporting both the risk reduction and mortgage reduction principles. The D&D of non- and lower-contaminated facilities and most environmental remediation work will be deferred until later in the project to allow resources to be focused in the areas that result in the greatest reduction in risks and mortgage costs.

Project Cost Estimates (in thousands of dollars)

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	295,912	Actual 1997 Cost:	20,690	Actual 1998 Cost:	16,718
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	258,504	Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):			6,980

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Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 265,484

Project Cost Changes

Cost Adjustments Reconciliation Narratives

Cost Change Due to Scope Deletions (-):

Cost Reductions Due to Efficiencies (-):

Cost Associated with New Scope (+): 57,248 Rebaselining due to acceleration. New scope dollar estimate is not of audit quality.

Cost Growth Associated with Scope Previously Reported (+):

Cost Reductions Due to Science & Technology Efficiencies (-):

Subtotal: 322,732

Additional Amount to Reconcile (+): -29,165

Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars): 293,567

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Complete tap and drain of B371 Liquids			6/30/1999						Y		
Comp CAT I/II Holdup Removal/Close B371/374 MAA	RF-0303		9/30/2002		9/30/2002						
IP 305 Compl Processing All B771 Liquids 3/31/02	RF-0359		3/29/2002		3/29/2002			Y			
371Cluster DOP Approved	RF-0389		6/30/2000		6/30/2000						
COMPLETE B371 CLUSTER DEMO	RF-0415		2/27/2006		2/27/2006						
Complete PBD 016 - B371 Cluster Closure Project	RF-OTHE-16		5/22/2006		5/22/2006					Y	
PBD 016 Project Start			10/1/1997								

Milestones - Part II

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Milestone/Activity	Field Milestone Code	Critical Decision	Critical Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Complete tap and drain of B371 Liquids											
Comp CAT I/II Holdup Removal/Close B371/374 MAA	RF-0303	Y									Kaiser Hill Internal (KHIs) Milestones
IP 305 Compl Processing All B771 Liquids 3/31/02	RF-0359										Defense Nuclear Facility Safety Board (DNFSBs) Milestones
371Cluster DOP Approved	RF-0389	Y									Kaiser Hill Internal (KHIs) Milestones
COMPLETE B371 CLUSTER DEMO	RF-0415	Y									Kaiser Hill Internal (KHIs) Milestones
Complete PBD 016 - B371 Cluster Closure Project	RF-OTHE-16				Y	Y					Kaiser Hill Internal (KHIs) Milestones
PBD 016 Project Start				Y							PBD 016 Project Start

Performance Measure Metrics

Category/Subcategory	Units	1997-2006 Total	2007-2070 Total	1997-2070 Total	Actual Pre-1997	Planned 1997	Actual 1997	Planned 1998	Planned 1999	Planned 2000	Planned 2001	Planned 2002	Planned 2003	Planned 2004
RS														
Assess.	NR	2.00	0.00	2.00										2.00
RS														
Cleanup	NR	2.00	0.00	2.00										
Fac.														
Decom.- Assess.	NF	27.00	0.00	27.00										
Fac.														
Decom- Cleanup	NF	27.00	0.00	27.00										
Tech.														
Deployed	Ntd	1.00	0.00	1.00						1.00				

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Category/Subcategory	Units	Planned 2004	Planned 2005	Planned 2006	Planned 2007	Planned 2008	Planned 2009	Planned 2010	Planned 2011 - 2015	Planned 2016 - 2020	Planned 2021 - 2025	Planned 2026 - 2030	Planned 2031 - 2035
RS													
Assess.	NR	2.00											
RS													
Cleanup	NR			2.00									
Fac.													
Decom.- Assess.	NF		27.00										
Fac.													
Decom- Cleanup	NF			27.00									
Tech.													
Deployed	Ntd												
Category/Subcategory	Units	Planned 2036 - 2040	Planned 2041 - 2045	Planned 2046 - 2050	Planned 2051 - 2055	Planned 2056 - 2060	Planned 2061 - 2035	Planned 2066 - 2070	Exceptions	Lifecycle Total			
RS													
Assess.	NR									2.00			
RS													
Cleanup	NR									2.00			
Fac.													
Decom.- Assess.	NF									27.00			
Fac.													
Decom- Cleanup	NF									27.00			
Tech.													
Deployed	Ntd									1.00			

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Release Sites

Site Code	RSF ID	Change Flag	Description	Class/Subclass Name	Planned Assess. Year	Forecast Assess. Year	Actual Assess. Date	Planned Comp. Year	Forecast Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
RFTS	3381		UBC B371 \	/	2004			2006				N		
RFTS	3382		UBC B374 \	/	2004			2006				N		

Facility Decommissioning

Site Code	RSF ID	Change Flag	Description	Class/Subclass	Hazard	Plan. Assess. Year	Fore. Assess. Year	Actual Assess. Date	Plan. Deac. Year	Fore. Deac. Year	Actual Deac. Date	Plan. Comp. Year	Fore. Comp. Year	Actual Comp. Date	Acc. Year	No Action	Comp. Status	RAD
RFTS	0454		T371H \ OFFICES	\		2005						2006				N		
RFTS	0455		T371I \ OFFICES	\		2005						2006				N		
RFTS	0456		T371J \ OFFICES	\		2005						2006				N		
RFTS	0457		T371K \ OFFICES	\		2005						2006				N		
RFTS	0458		376 \ OFFICES	\		2005						2006				N		
RFTS	0459		T376A \ OFFICES	\		2005						2006				N		
RFTS	0672		262 \ NO. 2 DIESEL FUEL TANK (aka Tank 171; aka D-262) (UST 4) (NE of 381)	\		2005						2006				N		
RFTS	0673		371 \ PLUTONIUM RECOVERY BUILDING	\		2005						2006				N		
RFTS	0674		373 \ COOLING TOWERS AND PUMP HOUSE (371/374)	\		2005						2006				N		
RFTS	0675		374 \ PROCESS WASTE TREATMENT FACILITY (Unit 42)	\		2005						2006				N		
RFTS	0676		374A \ 371-374 CARPENTER SHOP (S of 374)	\		2005						2006				N		
RFTS	0677		377 \ AIR COMPRESSOR BUILDING	\		2005						2006				N		

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RFTS	0678		378 \ WASTE COLLECTION PUMP HOUSE	\		2005						2006				N		
RFTS	0679		381 \ FLUORINE STORAGE BUILDING	\		2005						2006				N		
RFTS	0680		Tank 163 \ PRODUCT WATER TANK (N of 374, west tank)	\		2005						2006				N		
RFTS	0681		Tank 164 \ PRODUCT WATER TANK (N of 374, east tank)	\		2005						2006				N		
RFTS	0682		Tank 165 \ CEMENT SILO (W of 377)	\		2005						2006				N		
RFTS	0683		Tank 167 \ NITRIC ACID STORAGE TANK (aka D-222) (N of 374)	\		2005						2006				N		
RFTS	0684		Tank 168 \ KOH STORAGE TANK (N of 374) (aka D-225)	\		2005						2006				N		
RFTS	0685		Tank 169 \ KOH STORAGE TANK (N of 374) (aka D-842)	\		2005						2006				N		
RFTS	0686		Tank 170 \ LIQUID NITROGEN STORAGE TANK (N of 374, door 17D)	\		2005						2006				N		
RFTS	0687		Tank 224 \ 1ST EFFECT VAPOR BODY TANK (H2O with NaOH) (N of 374) (RCRA Unit 42.19)	\		2005						2006				N		
RFTS	0688		Tank 225 \ 2ND EFFECT VAPOR BODY TANK (H2O with NaOH) (N of 374) (RCRA	\		2005						2006				N		

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			Unit 42.20)															
RFTS	0689		Tank 226 \ 3RD EFFECT VAPOR BODY TANK (H2O with NaOH) (N of 374) (RCRA Unit 42.21)	\		2005						2006				N		
RFTS	0690		Tank 227 \ 4TH EFFECT VAPOR BODY TANK (H2O with NaOH) (N of 374) (RCRA Unit 42.22)	\		2005						2006				N		
RFTS	0691		Tank 228 \ SPRAY DRYER TANK (N of 374)	\		2005						2006				N		
RFTS	0692		TK- 4A \ ABOVEGROUND STORAGE TANK (#2 DIESEL) (replacement for UST 4/TANK 171) (NW of 371 door 20)	\		2005						2006				N		

Technology Needs

Site Need Code: RF-DD01

Site Need Name: Improved Decommissioning Characterization for Distinguishing Between Transuranic and Low-Levels of Contamination

Focus Area Work Package ID: DD-05

Focus Area Work Package: Material Recycle and Release

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Internal Duct Characterization System

Internal Duct Characterization System

Cost Savings (in thousands of dollars)

Range of Estimate

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Technology Needs

Internal Duct Characterization System

Small Pipe Characterization System (SPCS)

Small Pipe Characterization System (SPCS)

Small Pipe Characterization System (SPCS)

Pipe Explorer (TM) System

Pipe Explorer (TM) System

Pipe Explorer (TM) System

Portable X-Ray, K-Edge Heavy Metal Detector

Portable X-Ray, K-Edge Heavy Metal Detector

Portable X-Ray, K-Edge Heavy Metal Detector

Gamma Ray Imaging System

Gamma Ray Imaging System

Gamma Ray Imaging System

Pipe Crawler Internal Piping Characterization System

Pipe Crawler Internal Piping Characterization System

Pipe Crawler Internal Piping Characterization System

Gamma Cam (TM) Radiation Imaging System

Gamma Cam (TM) Radiation Imaging System

Gamma Cam (TM) Radiation Imaging System

Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

In Situ Object Counting System

In Situ Object Counting System

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Technology Needs

In Situ Object Counting System

Decommissioning In-Situ Plutonium Inventory Monitor (DISPIM)

Decommissioning In-Situ Plutonium Inventory Monitor (DISPIM)

Decommissioning In-Situ Plutonium Inventory Monitor (DISPIM)

Electret Ion Chambers

Electret Ion Chambers

Electret Ion Chambers

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

Site Need Code: RF-DD02

Site Need Name: High Speed, Integrated Characterization System for (1) Radioactive, (2) Hazardous, and (3) Toxic Contamination

Focus Area Work Package ID: DD-05

Focus Area Work Package: Material Recycle and Release

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Three Dimensional, Integrated Characterization and Archiving System (3D-ICAS)

Three Dimensional, Integrated Characterization and Archiving System (3D-ICAS)

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Technology Needs

Three Dimensional, Integrated Characterization and Archiving System (3D-ICAS)

Gamma Ray Imaging System

Gamma Ray Imaging System

Gamma Ray Imaging System

Mobile Automated Characterization System

Mobile Automated Characterization System

Mobile Automated Characterization System

Gamma Cam (TM) Radiation Imaging System

Gamma Cam (TM) Radiation Imaging System

Gamma Cam (TM) Radiation Imaging System

Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)

Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)

Surface Contamination Monitor and Survey Information Management System (SCM/SIMS)

Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

Indoor Radiation Mapping Using Laser Assisted Ranging and Data System

In Situ Object Counting System

In Situ Object Counting System

In Situ Object Counting System

Decommissioning In-Situ Plutonium Inventory Monitor (DISPIM)

Decommissioning In-Situ Plutonium Inventory Monitor (DISPIM)

Decommissioning In-Situ Plutonium Inventory Monitor (DISPIM)

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Technology Needs

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

Site Need Code: RF-DD03

Site Need Name: Improved Interior Airborne Particulates Control

Focus Area Work Package ID: DD-12

Focus Area Work Package: D&D of Weapons Components Fabrication Facilities

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Reactor Surface Contamination Stabilization

Reactor Surface Contamination Stabilization

Concrete Dust Supression System

Concrete Dust Supression System

Strippable Coatings and Fixatives

Strippable Coatings and Fixatives

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Technology Needs

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)
01388: ER-04C - Sorted D&D TRU
01389: ER-04D - Sorted D&D Uncontaminated to Disposal
01387: ER-04B - Sorted D&D LLM
01386: ER-04A - Sorted D&D LLW
01390: ER-04E - Sorted D&D HAZ to Disposal
01391: ER-04F - Sorted D&D to On Site Placement

Y N
Y N
Y N
Y N
Y N
Y N
Y N

Site Need Code: RF-DD04

Site Need Name: Improved Measurement Techniques for Free Release of Property and Salvageable Equipment Contaminated with Radionuclides

Focus Area Work Package ID: DD-13

Focus Area Work Package: Oversized Metallic TRU Waste Disposition

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

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Technology Needs

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

Site Need Code: RF-DD07

Site Need Name: Improved Disposition of Raschig-Ring Tanks

Focus Area Work Package ID: DD-12

Focus Area Work Package: D&D of Weapons Components Fabrication Facilities

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

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Technology Needs

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

Site Need Code: RF-DD08

Site Need Name: Improved Worker Protection Clothing and Systems

Focus Area Work Package ID: DD-12

Focus Area Work Package: D&D of Weapons Components Fabrication Facilities

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

FRHAM-TEX Anti Contamination Suit

FRHAM-TEX Anti Contamination Suit

NuFab Anti Contamination Suit

NuFab Anti Contamination Suit

Personal Ice Cooling System (PICS)

Personal Ice Cooling System (PICS)

Sealed-Seam Sack Suit

Sealed-Seam Sack Suit

Wireless Remote Monitoring System

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Technology Needs

Wireless Remote Monitoring System

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

Site Need Code: RF-DD09

Site Need Name: Improved Decontamination of Porous Surfaces in Preparation for Building Demolition

Focus Area Work Package ID: DD-13

Focus Area Work Package: Oversized Metallic TRU Waste Disposition

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Biodegradation of Concrete

Biodegradation of Concrete

Biodegradation of Concrete

2-D Linear Motion System

2-D Linear Motion System

2-D Linear Motion System

Rotary Peening with Captive Shot

Rotary Peening with Captive Shot

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Technology Needs

Rotary Peening with Captive Shot

Centrifugal Shot Blast System

Centrifugal Shot Blast System

Centrifugal Shot Blast System

Concrete Shaver

Concrete Shaver

Concrete Shaver

Remotely Operated Scabbling

Remotely Operated Scabbling

Remotely Operated Scabbling

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

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Technology Needs

Site Need Code: RF-DD10

Site Need Name: Improved Decontamination of Non-Porous Building Property and Structures

Focus Area Work Package ID: DD-12

Focus Area Work Package: D&D of Weapons Components Fabrication Facilities

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Laser Surface Cleaning

Laser Surface Cleaning

Laser Surface Cleaning

CORPEX Nuclear Decontamination Process

CORPEX Nuclear Decontamination Process

CORPEX Nuclear Decontamination Process

Soda Blasting Decontamination Process

Soda Blasting Decontamination Process

Soda Blasting Decontamination Process

Laser Decontamination and Recycle of Metals

Laser Decontamination and Recycle of Metals

Laser Decontamination and Recycle of Metals

Removal of Contaminants from Equipment and Debris, and Waste Minimization Using TECHXTRACT

Removal of Contaminants from Equipment and Debris, and Waste Minimization Using TECHXTRACT

Removal of Contaminants from Equipment and Debris, and Waste Minimization Using TECHXTRACT

Portable Concentrator for Processing Plutonium Contaminated Solutions

Portable Concentrator for Processing Plutonium Contaminated Solutions

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Technology Needs

Portable Concentrator for Processing Plutonium Contaminated Solutions

Steam Vacuum Cleaning

Steam Vacuum Cleaning

Steam Vacuum Cleaning

Soft Media Blast Cleaning

Soft Media Blast Cleaning

Soft Media Blast Cleaning

Advanced Recyclable Media System

Advanced Recyclable Media System

Advanced Recyclable Media System

Decontamination and Volume Reduction System (DVRS)

Decontamination and Volume Reduction System (DVRS)

Decontamination and Volume Reduction System (DVRS)

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

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Technology Needs

Site Need Code: RF-DD11

Site Need Name: Improved Size Reduction of Contaminated Equipment and Demolition Waste

Focus Area Work Package ID: NMFA-03

Focus Area Work Package: Untitled (pending title by FA)

Focus Area: PLUTOFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both): Both

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Laser Cutting and Size Reduction

Laser Cutting and Size Reduction

Laser Cutting and Size Reduction

High Speed Clamshell Pipe Cutter

High Speed Clamshell Pipe Cutter

High Speed Clamshell Pipe Cutter

Oxy-Gasoline Torch

Oxy-Gasoline Torch

Oxy-Gasoline Torch

Self Contained Pipe Cutting Shear

Self Contained Pipe Cutting Shear

Self Contained Pipe Cutting Shear

Decontamination and Volume Reduction System (DVRS)

Decontamination and Volume Reduction System (DVRS)

Decontamination and Volume Reduction System (DVRS)

Hand Held Shear

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Technology Needs

Hand Held Shear

Hand Held Shear

Innovative Size Reduction Nibblers

Innovative Size Reduction Nibblers

Innovative Size Reduction Nibblers

Innovative Size Reduction Shears

Innovative Size Reduction Shears

Innovative Size Reduction Shears

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

Site Need Code: RF-DD15

Site Need Name: Real-Time Beryllium Surface Characterization

Focus Area Work Package ID: DD-12

Focus Area Work Package: D&D of Weapons Components Fabrication Facilities

Focus Area: DDFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

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HQ ID: **0355**

Technology Needs

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

01388: ER-04C - Sorted D&D TRU

Y

N

01389: ER-04D - Sorted D&D Uncontaminated to Disposal

Y

N

01387: ER-04B - Sorted D&D LLM

Y

N

01386: ER-04A - Sorted D&D LLW

Y

N

01390: ER-04E - Sorted D&D HAZ to Disposal

Y

N

01391: ER-04F - Sorted D&D to On Site Placement

Y

N

Site Need Code: **RF-IF01**

Site Need Name: **Improved Computer-Based Training Platforms**

Focus Area Work Package ID:

Focus Area Work Package:

Focus Area:

Agree with Technology Link: **Y**

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Dataset Name: **FY 1999 Planning Data**

Date of Dataset: **9/20/1999**

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Project Baseline Summary Report

Data Source: **EM CDB**

Operations/Field Office: **Rocky Flats**

Site Summary Level: **Rocky Flats Environmental Technology Site**

Project **RF016 / Building 371 Cluster Closure Project**

Report Number: **GEN-01b**

Print Date: **3/9/2000**

HQ ID: **0355**

Technology Needs

Site Need Code: RF-WM12

Site Need Name: Bulk Debris Characterization Techniques

Focus Area Work Package ID: MW-01

Focus Area Work Package: Nondestructive Characterization for Treatment, Transportation, and Disposal of MLL and MTRU Waste.

Focus Area: MWFA

Agree with Technology Link: Y

Benefits (Cost, Risk Reduction, Both):

Technologies

Cost Savings (in thousands of dollars)

Range of Estimate

Related CCP Milestones

Related Waste Streams

Agree?

Change?

01385: ER-04 - D&D Waste (HAZ, LLW, MLLW, TRU/MTRU, Uncontam)

Y

N

Technology Deployments

Deployment Year

Deployment Status

Planned

Forecast

Actual Date

Technology Name: Sugar Fogging for Raschig Ring Removal

Potential Deployment

2000

Dataset Name: **FY 1999 Planning Data**

Date of Dataset: **9/20/1999**

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